



The Visual Beauty of Landscapes in the Prambanan Hills, Yogyakarta

Nugroho Hari Purnomo¹ Eko Budiyanto² Muzayanah³ Aida Kurniawati⁴ Mohammad Daman Huri⁵ and Muhammad Bintang Wilistya⁶

¹²³⁴⁵⁶Geography Education, Faculty of Social Sciences and Law
Surabaya State University, Surabaya Indonesia
nugrohohari@unesa.ac.id

Abstract. The purpose of this research is to carry out a visual analysis of the landscape based on the geomorphological characteristics of the study area. The main method of research is a survey. The variable used in this study is the visual level of the landscape. The research analysis is descriptive of landscape visual preferences. The results showed that the SBE calculation showed that the location based on the highest photo was Spot Riyadi with a Scenic Beauty Estimation (SBE) score of 89. It was continued by Mintorogo with an SBE value of 51. For other locations, the SBE value was less than thirty. Successively Pandanrejo 24, Pereng 21, Kraton Ratu Boko 17, Lemahbang 16, Candi Ijo 14, Klumpit 12, and Watu Papal 9. The highest SBE value is at Spot Riyadi where the location is located above structural hills. Viewed from the top of the hill, the difference in height makes the visual landscape quite broad, making it more attractive. The interesting thing about this location is that the distant foreground of the volcano is visible completely from the peak, slopes, and foot of the volcano. with a stretch of land use that has shades of green from forest vegetation as well as rice fields and fields interspersed with built-up land. In the near foreground, you can see the expanse of rice fields.

Keywords: Visual, Landscapes, Prambanan.

1 Introduction

Prambanan District, Sleman Regency consists of volcanic plains and structural hills. Regional development on the volcanic plains is quite rapid because there are centers of economic support. Structurally hilly areas are limited cultivation areas that have superior potential in the tourism sector.

The construction of an alternative road connecting with Gunung Kidul Regency will cross this hilly area. The road will also connect several tourist attractions in Prambanan with Gunung Kidul. Several tourist objects that are known to grow rapidly are in the path of the road plan. These tourist objects are the Ratu Boko complex, Breksi Cliff, Ijo Temple, settlements, and Teletabis hills, as well as the Ngelanggran Ancient Volcano area in Patuk Gunung Kidul District.

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The existence of a diversity of tourist objects and attractions supported by good road infrastructure has the potential to accelerate developments that spur regional growth. Many diversions of tourist objects and attractions will emerge. The tourism sector is believed to be capable of spurring other sectors such as trade, dry land agriculture, animal husbandry, and forestry.

Inventory of land and environmental resources is the initial part of regional development to spur growth. This needs to be done so that the characteristics of the existing resources are known first. By knowing the characteristics of existing resources, the development process for regional growth can be managed optimally. Optimal management is the process of regional growth by the carrying capacity of existing resources.

Visual landscape can act as a resource in tourism. In general, tourism objects develop because of the uniqueness of nature. Among the uniqueness is the visual nature of the main attraction. Conceptually, geomorphology can contribute to assessing the visual uniqueness of a landscape. The study of landscapes to support human life in the context of space is an application of environmental geomorphology.

The characteristic of tourism for the current millennial generation is being able to do Viral marketing. Viral marketing is a form of internet-based word-of-mouth marketing (e-word-of-mouth marketing) whose promotional function is networking and designed to spread quickly and widely [1]. The visual uniqueness of the landscape as a tourist attraction will quickly become popular if it gets an assessment from this millennial generation.

Land resources are internal factors that are permanent in the local area. Meanwhile population, capital, and technology are dynamic in regional growth. An understanding of the characteristics of land resources is the basis for regional development which is expected to realize regional growth. The basic land characteristics are the landforms studied in geomorphology. Identification of the geomorphology of an area can provide information on landform that describes the surface landscape. This surface landscape forms the basis for the identification of potential for regional growth.

One of the sectors for regional growth is tourism. This sector can be developed if there are potential attractions that can become an attraction. The surface landscape can be an object of attractiveness assessment for the development of tourism potential. This study aimed to perform a visual analysis of the Prambanan Sleman hills.

2 Method

Administratively, the survey location is Prambanan District, Sleman Regency, Special Region of Yogyakarta. The village areas studied included the villages of Bokoharjo, Sambirejo, Sumberharjo, Wukirharjo, and Gayamharjo. Physiographically the survey location is part of the Baturagung hills.

Based on the main method, this research is survey research, which collects data on several land samples and individual residents who are considered representative of the population to obtain a certain number of values for the selected variables [2]. The analysis used is landscape visual preferences [3]. Visual value calculation using the Scenic Beauty Estimation (SBE) method. SBE begins with data tabulation, calculating the frequency of each score (f), calculating the cumulative frequency (cf) and

cumulative probabilities (cp). The SBE measurement scale is the Summated rating scale with a value of 1 to 10 for the visual landscape. Furthermore, using Table Z, the z value is determined for each cp value. Especially for $cp = 1.00$ or $cp = (z = \pm \infty)$ the calculation formula $cp = 1 - 1/(2n)$ or $cp = 1/(2n)$ is used [28]. The average z value obtained for each photo is then entered in the SBE formula as follows:

$$SBE_x = (Z_x - Z_o) \times 100$$

Where:

SBE_x = estimator value of the beauty of the x -th landscape view

Z_x = z -average value for the x -th landscape

Z_o = the average value of a given landscape as a standard

3 Results and Discussion

Landscape beauty assessment survey involving 129 respondents. General information related to respondents concerns their interest in the beauty of the natural environment. Interest is the initial basis for someone to behave. The form of an attitude of interest in an object is the curiosity to get to know the object more closely. Attitude can be reflected by an action to be able to see the object. This encourages someone to travel to visit objects of interest. The characteristics of the respondents were seen from their liking to enjoy the natural scenery and whether or not they often traveled. Based on their preference for enjoying the natural scenery, the majority of 76% of respondents like it, and 23% like it. This shows that natural scenery has a value that is of interest to almost all respondents. Instinctively humans have a preference for natural beauty [4]. It's just how strong a person's liking or interest in natural beauty is also determined by interest in other preferences.

A person's interest in natural scenery can be followed by whether or not he often travels to enjoy the natural scenery. The survey results show that 30% often travel, 68% sometimes, and 2% never. Strong interest will encourage frequent travel. But other factors such as time availability and cost make the trip only occasionally or not travel at all.

The assessment of the beauty of the landscape was carried out by respondents using the Scenic Beauty Estimation (SBE) method [5]. The landform unit is the location for observing the landscape. The visual landscape is based on the dominant visual appearance that can be seen from the landform unit. The difference in the height of the position of the notch in the landform will provide a wide landscape visually. Based on this, several landforms have the same dominant visual landscape. In addition, one landform can also have several different landscape visual locations. The location of choice is in a place that has the longest difference in height or some objects have the potential to be attractive but have not yet been developed.

The results of a landscape visual survey based on location photos show that the scale values chosen by respondents are dominant at scales 7, 8, and 9. This shows that these locations generally have a landscape visual appeal. The attractiveness in the form of a visual landscape can be seen from the position of a height. The survey results are values that need to be processed again to obtain a Scenic Beauty Estimation (SBE) value. The result of the visual quality assessment by the respondents is the score for each photo. The average value obtained from the results of the respondent's assessment is then

included in the SBE formula. The highest score (high SBE value) indicates that the visual landscape is most often chosen as beautiful, while the low score (low SBE value) describes the visual landscape as bad (disliked).

The highest SBE value at Spot Riyadi has the characteristic of facing north. The position of the location is above the structural hills. Structural hills are hills resulting from faulting or folding processes. In normal faults and ascending faults, some parts are higher than the other parts. It is this high part that develops as structural hills. Structural hills due to faults generally have steep slopes. Viewed from the top of the hill, the difference in height makes the visual landscape quite broad, making it more attractive. At this location, the height difference is about 85 m. The attractive visual impression of the landscape is due to the difference in altitude, according to the conclusions of the research conducted by Dharma et al. [6].

The interesting thing about this location is that the distant foreground is Merapi Volcano which is visible when the weather is clear. A complete view of the peaks, slopes, and feet of the volcano. Likewise, the expanse of land use has green nuances from forest vegetation and rice fields and fields interspersed with built-up land. In the near foreground, you can see the expanse of rice fields.

Road access to Spot Riyadi is relatively easy. From the main road in the form of good asphalt, it continues with a cement road which is also in good condition. The road is two lanes so you can pass cars. The road conditions go up sharply so that only small cars can pass. For buses can not pass. The open area at Spot Riyadi is quite narrow. This makes the parking area quite limited. Likewise, the area for the development of attractions that require a large area is also limited. However, the availability of water through clean water pipelines is sufficient. Activities at this location that already exist are culinary and photo spots.

The location with the lowest SBE value, namely Sumberwatu, is located on the west side of the location not far from Spot Riyadi. In terms of road access, Sumberwatu crosses a narrower road. In addition, there is not a large area. The visual characteristics of the two are very similar. The obvious difference is that there are settlements in the near foreground. The visual condition of this landscape seems to be the difference between Sumberwatu and Spot Riyadi.

For the visual location of the landscape, the next order is the Mintorogo location. Road access is quite easy, as well as access to clean water. Despite its location on the outskirts of the forest and far from settlements, the Mintorogo area is an access route between the two districts. Along the side of the road is also access to a drinking water pipe network. In this location, there is also a water pump built by the Ministry of public works and managed by a regional drinking water company. The open area in this area is relatively wide due to the dominance of forest and dry land use. The location is the border between the forest and the moor.

The beauty of this location is that the SBE value is moderate, presumably because it is dominated by a lot of forests and dry vegetation. While the panorama in the distance also reveals an attractive beauty. Mintorogo is known as a forest that has begun to be developed as a photo spot destination.

The other locations have relatively low SBE values compared to the Spot Riyadi and Mintorogo locations. Several locations have developed as culinary spots due to the difference in altitude. Among these locations are Ijo Temple and Klumprit. The main suspicion regarding the development of the location is because it is located on the side

of the road at Candi Ijo. Meanwhile, Klumpit is located close to residential areas where access is quite good [7][8].

Visually, the two landscapes at Candi Ijo and Klumpit are also interesting. However, visibility at these two locations is not so free. This is because it is blocked by the plant canopy on the nearest front. This is understandable because the slopes are not steep or nearly perpendicular [4][5]. Mixed garden land use in the front, there are large trees. The canopy is a barrier to the visual view of the landscape.

4 Conclusion

The highest SBE value is at the Riyadi Spot due to its position on a structural hill. Viewed from the top of the hill, the difference in height makes the visual landscape quite broad, making it more attractive. The interesting thing about this location is that the distant foreground of the volcano is visible completely from the peak, slopes, and foot of the volcano. with a stretch of land use that has shades of green from forest vegetation as well as rice fields and fields interspersed with built-up land. In the near foreground, you can see the expanse of rice fields.

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